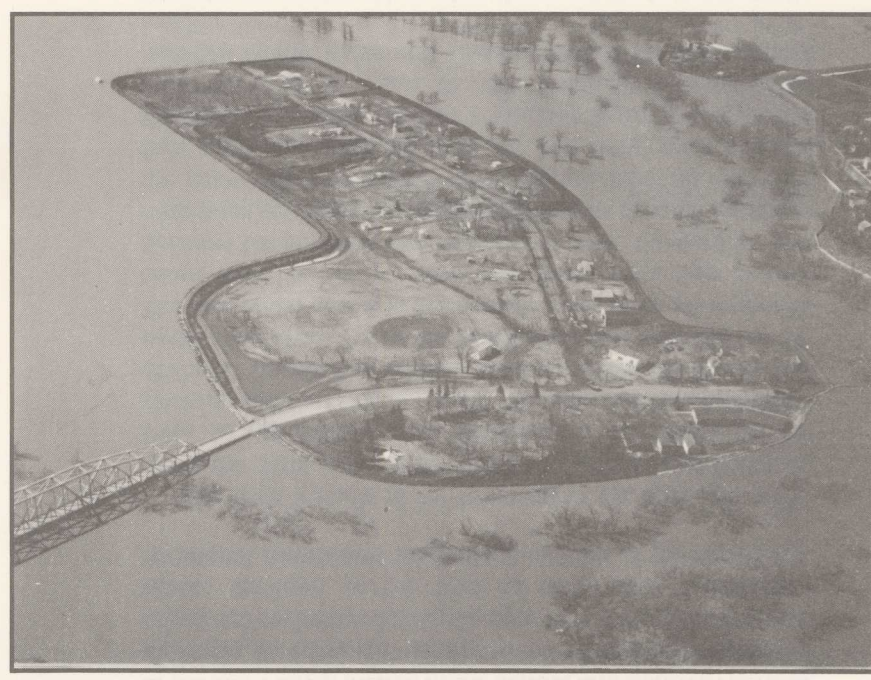




Downstream (north) view of the west side of St. Vincent, Minn.



Looking west at Noyes, Minn., the peninsula of land near the center of photograph. Emerson, Manitoba is at the right of the picture



Ring dike protects East Pembina, N. Dak. from the floodwaters. Bridge in the lower left corner of photograph spans the main channel of the Red River



Downstream (north) view of the west side of St. Vincent, Minn.



Aerial photograph of Pembina, N. Dak. (left) and St. Vincent, Minn. (right) on April 27, 1979, four days prior to the peak. The towns are ringed by earthen levees. Direction of flow is towards top of photograph



The town of Bowesmont, N. Dak., inundated by floodwaters from the Red River on April 27, 1979



Aerial photograph taken April 27, 1979, near the peak at Drayton, N. Dak. Direction of flow is towards top of photograph

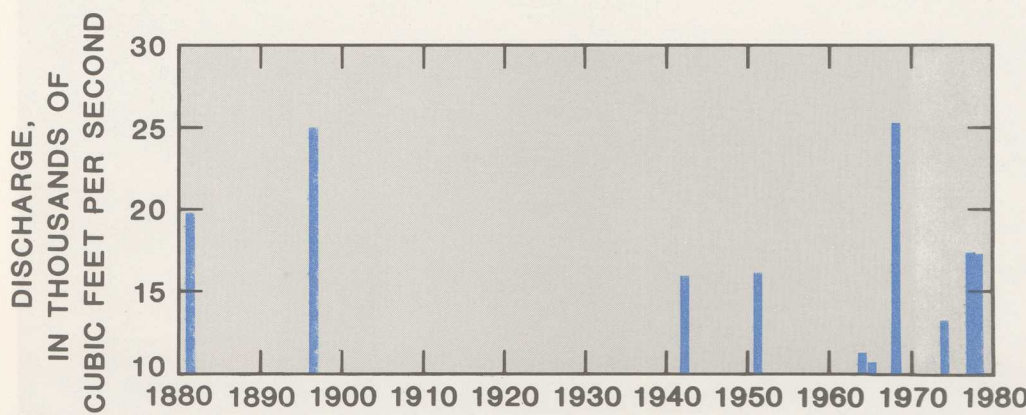


Figure 11.--Annual peaks greater than 10,000 cubic feet per second, 1882-1897, and 1902-79, Red River of the North at Fargo, North Dakota

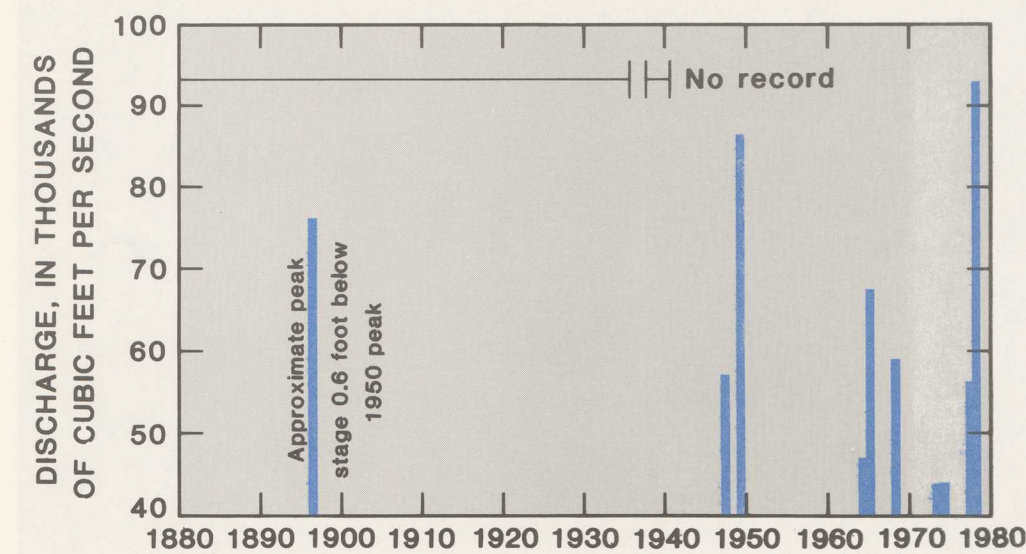


Figure 13.--Annual peaks greater than 40,000 cubic feet per second, 1882-1897, and 1902-79, Red River of the North at Drayton, North Dakota

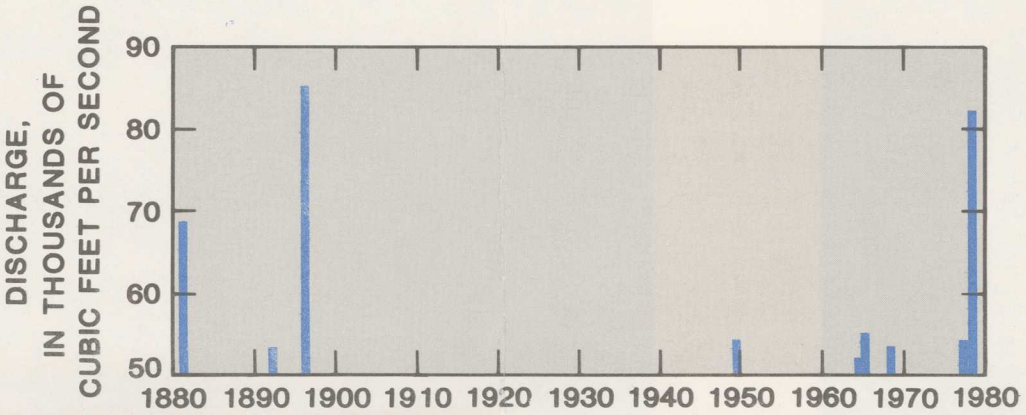


Figure 12.--Annual peaks greater than 50,000 cubic feet per second, 1882-79, Red River of the North at Grand Forks, North Dakota

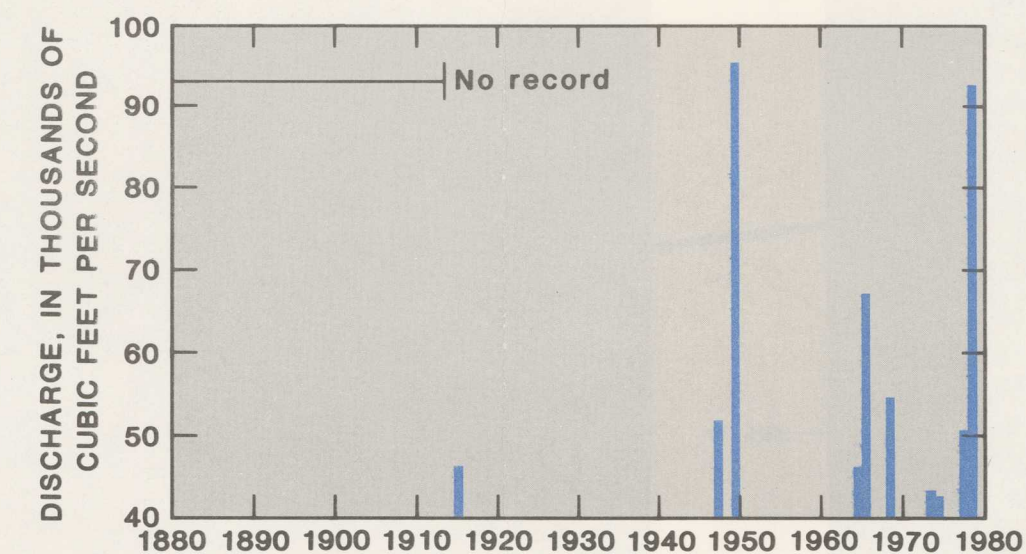


Figure 14.--Annual peaks greater than 80,000 cubic feet per second, 1882-79, Red River of the North at Emerson, Manitoba

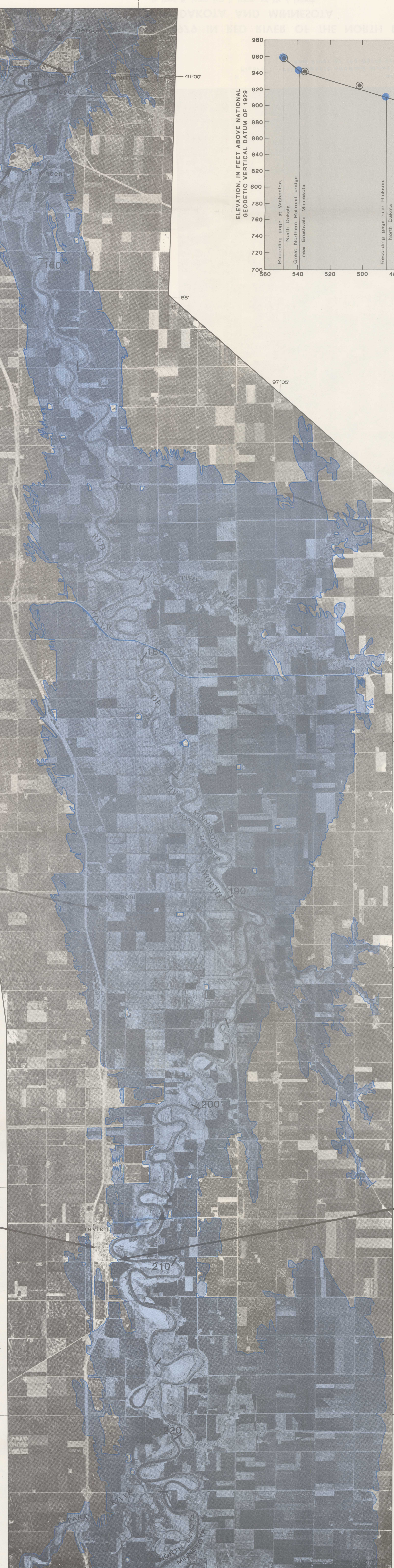


Figure 10.--Photomosaic showing areas inundated April 27, 1979, on the Red River of the North from river mile 228 to 154

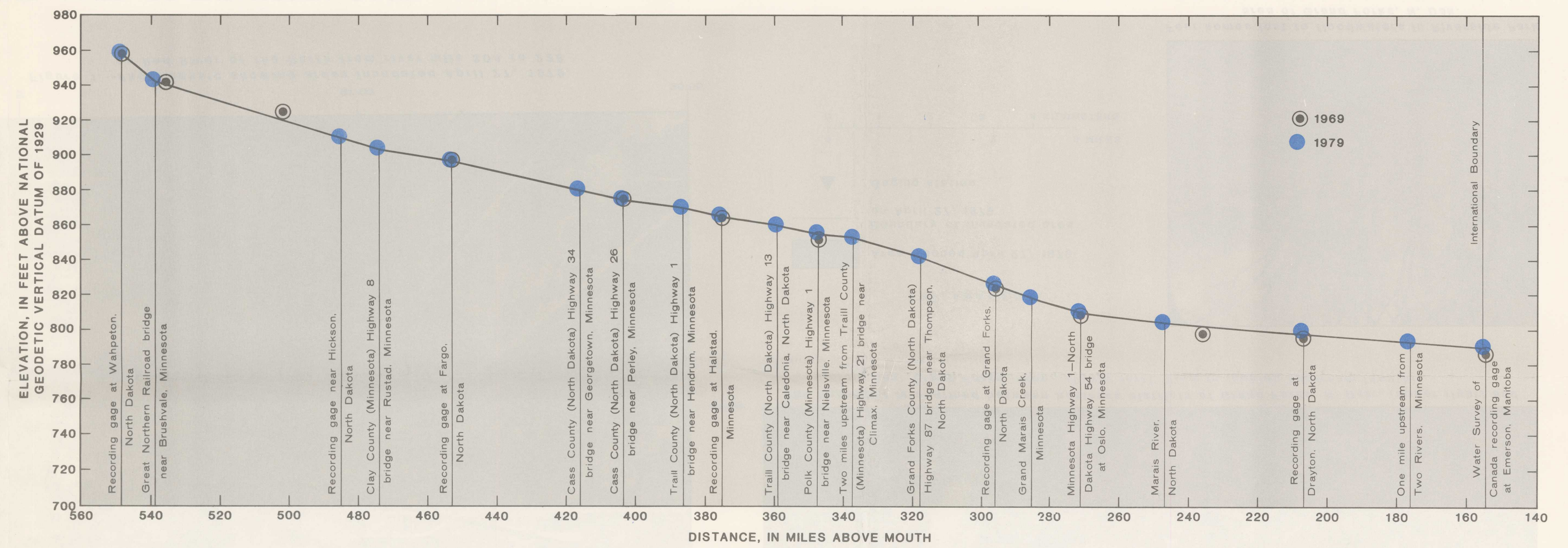


Figure 7.--Flood-crest profiles, Red River of the North, mile 560 to 154

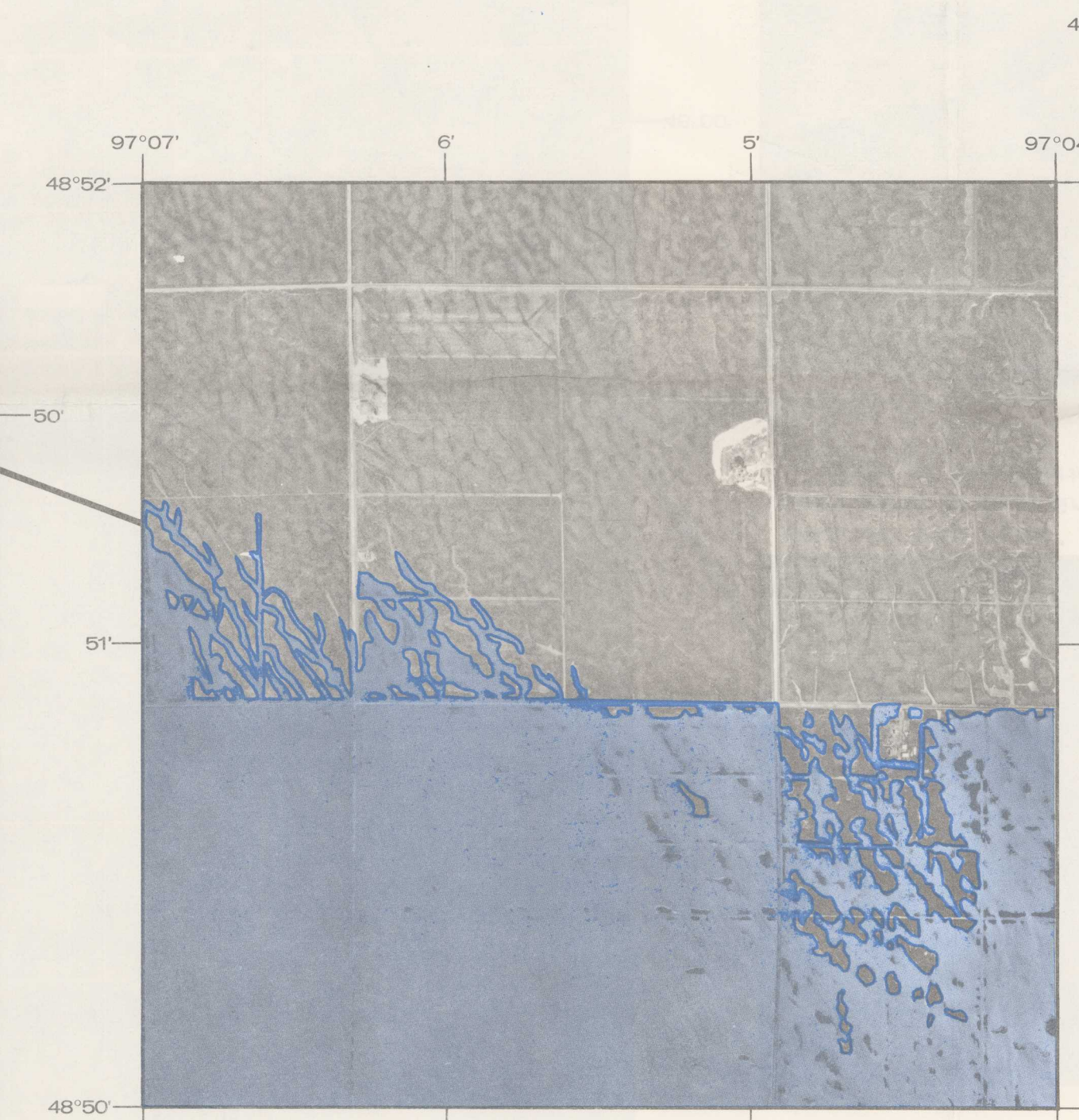


Figure 8.--A typical delineation of inundated areas where boundaries are irregular

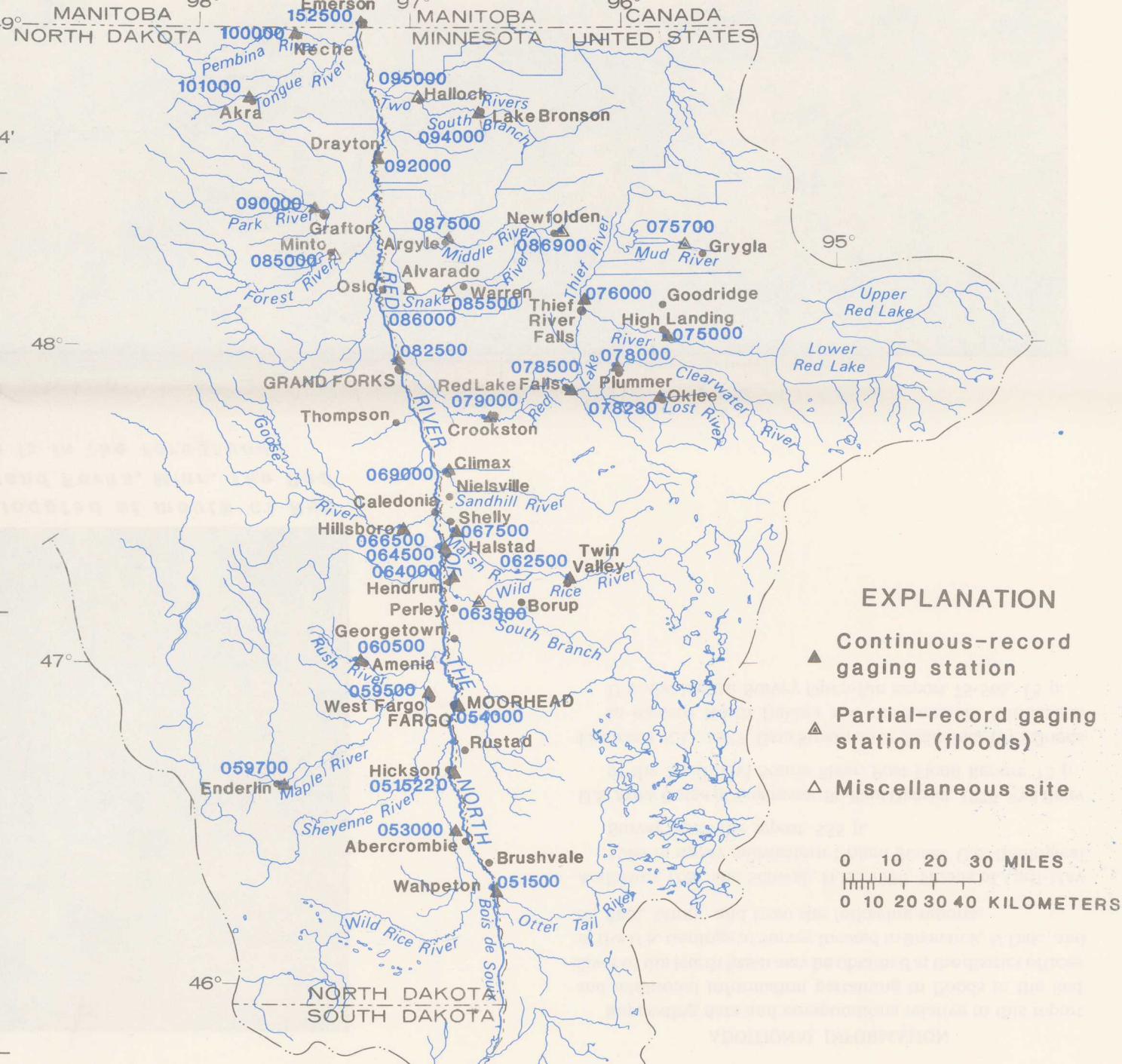


Figure 9.--Location of gaging stations in Red River of the North basin

Table 1.--Summary of flood stages and discharges in Red River of the North basin

Station Number	Gaging station, partial record, or miscellaneous site	Drainage area (mi ²)	Period of record, or known floods	Maximums previously known		Maximum during April-May 1979 flood		Recurrence interval (years)		
				Date	Gage height (ft)	Discharge (ft ³ /s)	Date		Gage height (ft)	Discharge (ft ³ /s)
05051500	Red River of the North at Wahpeton, N. Dak.	4,010	1897, 1942-79	Spring, 1897	17.0	10,500	4-14	15.44	7,950	12
05051522	Red River of the North at Hickson, N. Dak.	4,300	1976-79	4-2-78	55.4	9,200	4-18	33.03	9,600	—
05053500	Wild Rice River near Abercrombie, N. Dak.	2,080	1932-79	Spring, 1897	27.5	9,540	4-15	22.39	6,000	23
05054000	Red River of the North at Fargo, N. Dak.	6,800	1882, 1897, 1902-79	4-7-1897	43.91	25,000	4-19	34.93	17,300	25
05055900	Shenando River at West Fargo, N. Dak.	8,870	1903-05, 1919, 1929-79	4-4-66	37.34	3,110	4-21	22.12	3,480	13
05059700	Maple River near Endellin, N. Dak.	845	1957-79	6-30-75	15.41	7,610	4-20	11.50	3,200	7
05060500	Rush River at Arden, N. Dak.	116	1947-79	3-23-66	12.15	2,350	4-19	10.37	3,480	>100
05062500	Wild Rice River at Twin Valley, Minn.	888	1910-17, 1957-79	7-22-09	420.0	9,200	4-18	12.95	6,010	36
05063500	South Branch Wild Rice River near Borg, Minn.	254	1944-49, 1972-79	7-1-75	20.59	3,700	4-17	19.52	3,040	—
05064000	Wild Rice River at Hendrum, Minn.	1,600	1944-79	7-9-75	432.05	—	4-21	432.30	8,800	20
05064500	Red River of the North at Halstad, Minn.	21,800	1897, 1936-37, 1942-79	Spring, 1897	38.5	39,900	4-22	39.00	42,000	50
05066500	Goose River at Hillsboro, N. Dak.	1,203	1882, 1897, 1904-1916, 1957-79	4-19-50	14.94	9,420	4-21	16.76	14,800	>100
05067500	Marsh River near Shelly, Minn.	151	1943-79	5-11-50	21.96	4,660	4-19	23.36	4,800	10
05069000	Sand Hill River at Cass, Minn.	420	1945-79	4-14-65	17.81	4,560	4-20	42.59	3,400	10
05070000	Red Lake River at Hubbard, N. Dak.	2,300	1939-79	4-17-69	428.32	—	4-23	432.79	—	—
05070700	Mud River near Grygla, Minn.	170	1979	7-5-75	13.64	4,060	4-26	18.49	1,480	—
05070800	Thief River near Thief River Falls, Minn.	939	1919-26, 1929-79	5-13-50	17.38	5,610	4-24	14.11	3,590	8
05070900	Clearwater River at Plummer, Minn.	512	1929-79	6-9-62	11.90	3,640	4-25	12.31	3,940	20
05072500	Lost River at Otter, Minn.	266	1960-79	4-10-69	412.31	—	4-20	14.63	2,140	5
05078500	Clearwater River at Red Lake Falls, Minn.	1,370	1916-17, 1933-79	4-9-70	11.56	9,890	4-25	12.38	10,300	10
05079000	Red Lake River at Crookston, Minn.	5,280	1903-79	4-12-69	27.33	28,400	4-26	24.99	21,900	25
05082500	Red River of the North at Grand Forks, N. Dak.	30,100	1882-1979	4-10-1897	450.2	85,000	4-23	46.63	82,000	70
05083000	Forest River at Minn. N. Dak.	740	1944-79	4-18-50	11.80	16,600	4-20	8.93	6,720	7
05083500	Snake River at Warren, Minn.	175	1945, 1950, 1954-56, 1958-79	May, 1950	18.42	3,510	4-18	45.10	4,000	50
05086000	Snake River at Alvarado, Minn.	—	1945, 1950, 1954-56, 1958-79	May, 1950	17.6	3,260	4-20	20.20	3,410	10
05086800	Middle River near Newell, Minn.	91.1	1979	—	—	—	4-25	17.10	1,000	—
05087500	Middle River at Apple, Minn.	265	1945, 1951-79	7-3-75	16.59	4,260	4-20	15.29	2,140	6
05090000	Park River at Graham, N. Dak.	695	1932-79	4-19-50	20.13	12,600	4-22	19.56	8,740	25
05092000	Red River of the North at Drayton, N. Dak.	34,800	1897, 1936-37, 1941-79, 1954-79	Spring, 1897	641.58	86,500	4-28	43.66	92,900	70
05094000	South Branch Two Rivers at Lake Bronson, Minn.	444	1929-37, 1941-47, 1954-79	4-5-66	18.23	5,410	4-22	13.17	3,340	10
05095000	Two Rivers at Hallock, Minn.	625	1911-14, 1929-30, 1941-43, 1965-1979	4-2-42	18.96	3,380	4-23	7.50	3,490	7
05100000	Pembina River at Neche, N. Dak.	3,410	1904-08, 1910-15, 1919-79	4-20-50	421.58	10,700	4-20	423.64	9,500	36
05101000	Tongue River at Akra, N. Dak.	160	1950, 1952-79	4-18-50	484.87	11,800	4-22	16.75	900	7
05102500	Red River of the North at Emerson, Manitoba	40,200	1915-79	5-13-50	90.89	95,500	5-1	91.19	92,700	70

a = site ± 1.5 miles downstream

b = backwater from Red River and

c = backwater from Ice, d = at different site and datum

e = backwater from Red River, f = backwater from tributary ditches

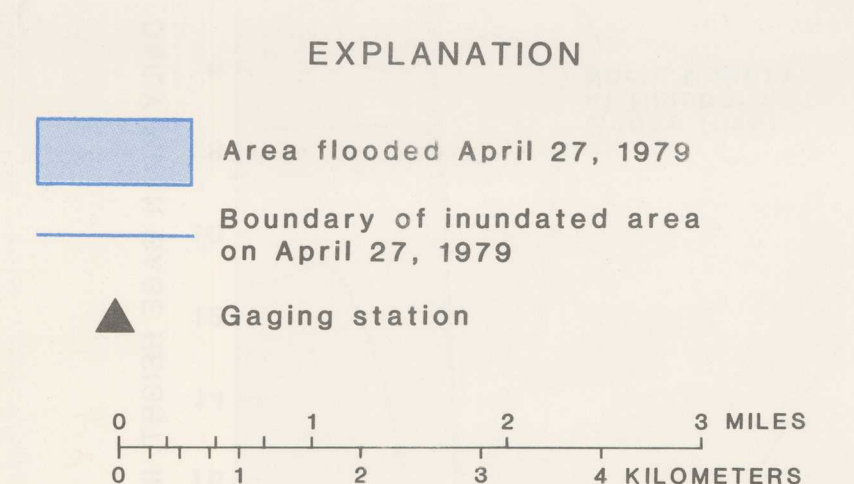
g = maximum discharge during 1880-79

h = result of discharge measurement

CONVERSION TABLE		
Multiply	By	To obtain SI units
inch (in)	25.40	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi ²)	2.590	square kilometer (km ²)
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)



Scene on State 1111 Road in Grand Forks, N. Dak.



Boats were used for access to many homes during the flood. Photographs courtesy of Grand Forks Herald, Grand Forks, N. Dak.

FLOOD OF APRIL-MAY 1979 IN RED RIVER OF THE NORTH BASIN, NORTH DAKOTA AND MINNESOTA